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Do not assume content reflects current scientific knowledge, policies, or practices.

This Gardening Guide contains valuable information.
Keep it handy—you will find many occasions for its
use.

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culture
~~Strand~~ Nursery Company
Taylor's Falls, Minn.



GARDEN INFORMATION

Prepared by

**THE MINNESOTA STATE
HORTICULTURAL SOCIETY**

**THE LARGEST HORTICULTURAL SOCIETY
IN THE MID-WEST**

Office at University Farm, St. Paul 1, Minn.

Join THE MINNESOTA STATE HORTICULTURAL SOCIETY

You will receive information such as is contained in this folder—REGULARLY.

This society, supported in part by the state, has for its work the securing and dissemination of knowledge pertaining to tree, fruit, flower, and vegetable growing, and related topics.

THE MINNESOTA HORTICULTURIST

All members receive this outstanding magazine on horticulture in the North. It contains authoritative and up-to-date information about fruits, vegetables, and ornamental plants in this region. Nine issues are published each year.

LOAN LIBRARY

Books are loaned to members for periods of two weeks under simple restrictions. Books can be mailed to you.

MEETINGS

The society holds its annual meeting in the fall. Leaders in horticultural activities are invited to speak. There are exhibits of flowers, fruits, vegetables, and other products.

A tour is held each year at the University of Minnesota Fruit Breeding Farm near Excelsior.

MEMBERSHIP

You are invited to become a member. Simply mail your membership fee (\$2.00 for 1 year), (\$5.00 for 3 years), or (\$25.00 for life) to

The Minnesota State Horticultural Society

University Farm, St. Paul 1, Minn.

ORGANIZE A GARDEN CLUB

Members of garden clubs in Minnesota are eligible for reduced membership rates. If your community does not have a garden club write for information regarding assistance in forming one.

FRUITS SUGGESTED FOR PLANTING IN MINNESOTA

See MINNESOTA HORTICULTURIST, January issue, for complete recommended fruit list.

See University of Minnesota Extension Bulletin 224 "Fruit Varieties for Minnesota" for complete list and descriptions.

	For southern Minnesota (fruit districts 1 and 2)	For northern Minnesota (fruit districts 3 and 4)
APPLES—Summer.	Mantet, Oriole	Erickson, Mantet,* Oriole
Fall	Beacon, Duchesn, Lakeland, Minjon, Wealthy	Beacon,* Duchesn,* Hibernal, Lakeland,* Minjon*
Winter	Fireside, Haralson, Prairie Spy, Redwell, Victory	Fireside,* Haralson,* Redwell,* Victory*
CHERRIES (NANKING).	Drilea, Orient	Drilea,* Orient*
CHERRIES (SOUR)	Northstar, Meteor	Northstar,* Meteor*
CHERRY PLUMS.	Compass,† Convoy,† Sapa, Sapalta	Compass,† Convoy,† Opata, Sapa,* Sapalta*
CRABAPPLES ...	Chestnut, Dolgo, Whitney	Chestnut, Dolgo, Red River, Rescue
CURRENTS‡	Cascade, Red Lake	Cascade, Red Lake, Viking
GOOSEBERRIES‡.	Como, Pixwell	Como, Pixwell
GRAPES	Beta, Bluebell, Blue Jay,§ Moonbeam, Red Amber	Beta, Minn. No. 78
PEARS	Bantam, Golden Spice, Bantam, Golden Spice Mendel, Parker	Bantam, Golden Spice
PLUMS—Hybrid	Elliot, Ember, Red- coat, South Dakota,† Superior, Toka,† Underwood	LaCrescent, Redcoat, South Dakota,† Toka,† Underwood
European	Dietz, Mount Royal	
RASPBERRIES ..	Indian Summer, Latham, Newburgh, Sodus (purple)	Chief, Latham, New- burgh, Sodus (purple)*
STRAWBERRIES—		
June-bearing .	Arrowhead, Dunlap, Premier	Arrowhead, Dunlap, Premier
Everbearing ..	Evermore, Gem, Red Rich, Wayzata, Superfection	Evermore, Gem, Red Rich, Wayzata, Superfection

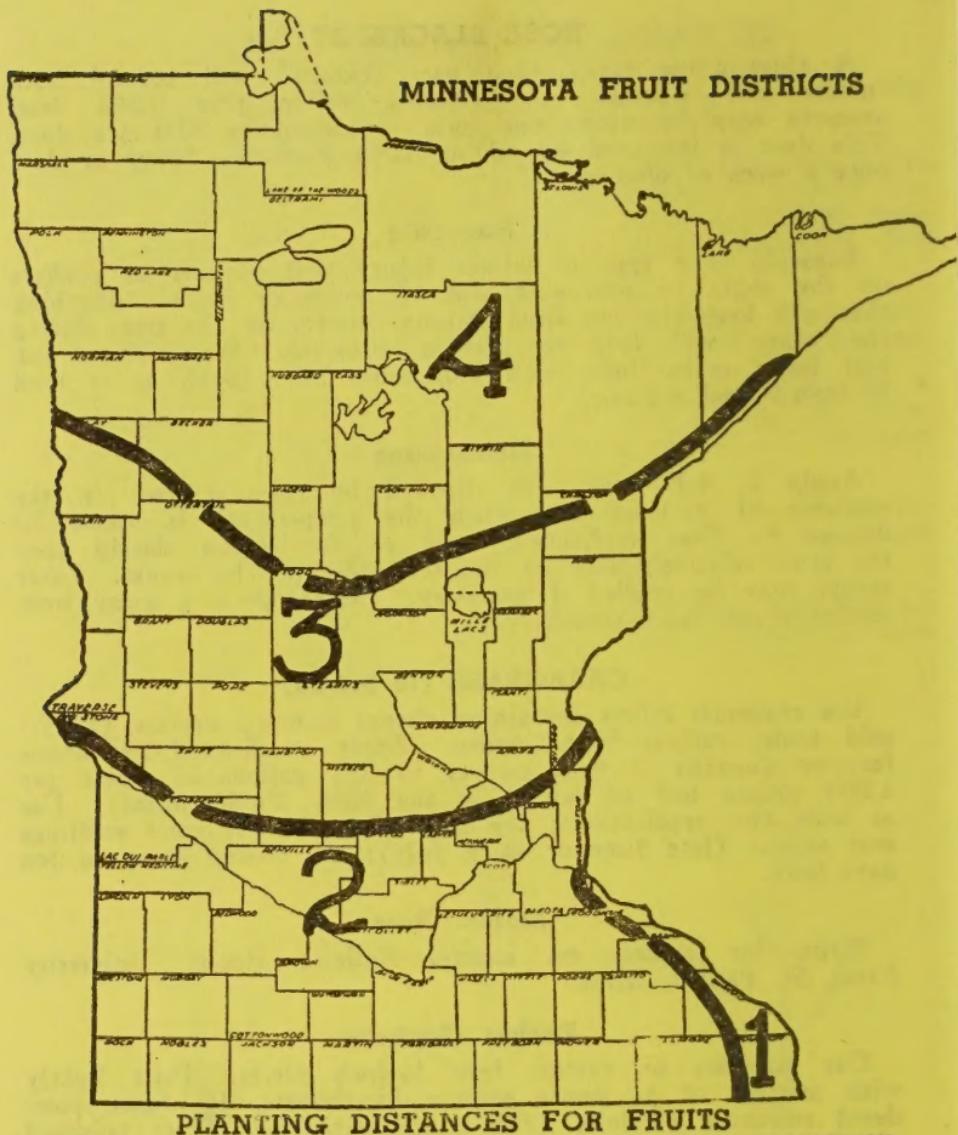
* Should be planted in protected sites.

† Pollinizers.

‡ In white pine blister rust areas a permit must be obtained from the State Conservation Department before planting currants and gooseberries.

§ Imperfect flowers.

MINNESOTA FRUIT DISTRICTS



PLANTING DISTANCES FOR FRUITS

Fruit	Distance between rows	Distance between plants in row	Time from planting to fruiting	Approximate yield per plant
Small fruits	feet	feet	years	
Currants	8	5	3	2-3 qts.
Gooseberries	8	5	3	2-3 qts.
Grapes	8	8	3	4-6 qts.
Raspberries	6-8	2½-4	1¼	1 qt.
Strawberries	3-4	1½-2	¼-1¼	½ qt.
Tree fruits				
Apples	30	30	6-10	5-10 bu.
Crabapples	30	30	6-10	5-10 bu.
Cherries (Korean)	8	4	2-3	1 qt.
Cher's (Nanking)	8	6	2-3	1 qt.
Cherry plums ..	15	15	3-4	1-2 bu.
Plums	20	20	5-6	1-2 bu.
Pears	30	30	6-10	1-2 bu.

FRUIT SPRAY PROGRAM FOR MINNESOTA

For fruit spray schedules recommended for commercial growers write for University of Minnesota Extension pamphlet 184.

The following is a simplified spray program for the home fruit grower. This calls for few sprays and suggests the use of a combination spray or dust. This program will not give as clean fruit as the complete program recommended for commercial growers; it will, however, be better than no program at all.

Many dealers sell combination fruit sprays and dusts. In buying one of these check the label to be certain it contains ingredients that will be effective. The mixture should contain insecticides, including DDT and lead arsenate, and a fungicide such as ferbam. The following home mixed combination spray is suggested where commercial preparations are not available.

Spraying should be done under as high pressure as possible. Regulate the discs of the nozzles so that the spray will be in the form of a mist. Spray at the proper time as a delay of a few days will greatly reduce the effectiveness. Do not spray when blossoms are in full bloom stage.

COMBINATION SPRAY MIXTURE

3 parts (by volume) of lead arsenate

2 parts (by volume) of ferbam

2 parts (by volume) of 50 per cent wettable DDT

Use 5 level tablespoonfuls of this mixture per gallon of spray solution.

APPLES AND PEARS

FIRST SPRAY: When fruit buds show pink at tips.

SECOND SPRAY: After three-fourths of the petals have fallen.

THIRD SPRAY: Five to seven days after the second spray.

FOURTH SPRAY: One week after first maggot flies appear, or about July 15.

PLUMS

FIRST SPRAY: When three-fourths of the petals have fallen.

SECOND SPRAY: When plums are the size of peas.

RASPBERRIES

FIRST SPRAY: When blossoms first show—about one week before bloom.

SECOND SPRAY: When, and if powdery mildew appears. (Use $\frac{2}{3}$ cup wettable sulfur in five gallons of water, or apply dusting sulfur with a duster.)

CURRENTS AND GOOSEBERRIES

FIRST SPRAY: When terminal leaves are $\frac{1}{2}$ to 1 inch long.

SECOND SPRAY: When, and if powdery mildew appears. (Use $\frac{2}{3}$ cup wettable sulfur in 5 gallons of water, or apply dusting sulfur with a duster.)

EVERGREENS

Trees for Lawn Specimens, Screens, or Backgrounds
*White Fir (*Abies concolor*), *Norway Spruce (*Picea abies*),
White Spruce (*Picea glauca*), Colorado Spruce (*Picea pungens*),
Red Pine (*Pinus resinosa*), **Eastern White Pine (*Pinus strobus*),
Scotch Pine (*Pinus sylvestris*), *Douglas Fir (*Pseudotsuga taxifolia*).

* Plant on heavier soils south of Twin Cities.

**Plant on heavier soils in eastern and northern Minnesota.

*Medium, Upright—Foundation and Border Plantings

Eastern Red Cedar (*Juniperus virginiana* and varieties), Rocky Mountain Juniper (*Juniperus scopulorum* and varieties),
**Japanese Yew (*Taxus cuspidata*), **Eastern Arborvitae (*Thuja occidentalis*), **Pyramidal Arborvitae (*Thuja occidentalis pyramidalis*), **Siberian Arborvitae (*Thuja occidentalis wareana*).

* May require shearing to keep them compact.

**Needs a moist, protected spot; good on north side of house.

Low or Spreading—Foundation and Border Plantings

Pfitzers Juniper (*Juniperus chinensis pfitzeriana*), Common Juniper (*Juniperus communis depressa*), Savin Juniper (*Juniperus sabina*), Mugho Pine (*Pinus mugo mughus*), *Japanese Yew (*Taxus cuspidata*—dwarf varieties), Woodward Globe Arborvitae (*Thuja occidentalis woodwardi*).

*Requires moist, protected sites; will grow in shade.

Creeping—Rock Gardens, Banks, and Foundation Plantings

Waukegan Juniper (*Juniperus horizontalis douglasii*), Andorra Juniper (*Juniperus horizontalis plumosa*).

DECIDUOUS TREES AND SHRUBS

For complete list of "Woody Plants for Minnesota" request University of Minnesota Extension Bulletin 267.

Plant those marked (*) in moist, protected sites.

Large Trees for Large Grounds

Red Maple, Silver Maple, Sugar Maple, Common Hackberry, Green Ash, American Linden or Basswood, American Elm.

Medium to Small Trees for Small Grounds

Ohio Buckeye, Paper Birch, Russian Olive, Bolleana Poplar, Mayday Tree, *Weeping Willow, *European Mountain Ash.

Very Large Shrubs or Small Trees

Amur Maple, Shadblow Serviceberry, Hawthorns, European Euonymus, Amur Honeysuckle, Flowering Crabapples (*Malus*—varieties Hopa, Eley, Bechtel, Almey and others), *American Mountain Ash.

Large Shrubs for Border and Foundation Plantings

Tatarian Honeysuckle, Zabel's Honeysuckle, French Lilac, Chinese Lilac, Late Lilac, Staghorn Sumac, Silver Buffaloberry, *Eastern Wahoo (*E. atropurpureus*), *Sweet Mockorange (*P. coronarius*), *American Elder, *Red Elder, *Wayfaring Bush, *Nannyberry, *American Highbush Cranberry.

Medium Shrubs for Border and Foundation Plantings

Russian Peashrub (*Caragana frutex*), Peking Cotoneaster, Cistena Sandcherry, Nanking Cherry, Flowering Plum, Vanhoutte Spirea, *Siberian Dogwood, Gray Dogwood, *Redosier Dogwood, *Winged Euonymus, *Peegee Hydrangea, *Virginalis Mock-orange, Minnesota Snowflake Mockorange, *Common Ninebark, *Clove or Golden Currant, *Arrowwood.

Small Shrubs for Foundation and Border Plantings

Threelobe Sumac, Rugosa Rose, Threelobe Spirea, Garland Spirea, *Japanese Barberry, *Snowhill Hydrangea, *Lemoine Mockorange, *Dwarf Ninebark, *Alpine Currant, *Ash-leaved Spirea (*Sorbaria sorbifolia*), *Billiard Spirea.

Dwarf Shrubs for Foundation and Border Plantings

Bush Cinquefoil (*Potentilla fruticosa*), Russian Almond (*Prunus tenella*), *Anthony Waterer Spirea, *Froebel Spirea, *Indiancurrant Snowberry, *Common Snowberry, *Littleleaf Mockorange (*P. microphyllus*), Dwarf winged Euonymus.

VINES

Englemann Creeper, Boston Ivy (South $\frac{1}{2}$ Minn. only), American Bittersweet, Everblooming Honeysuckle (*L. heckrottii*), Jackman Clematis, Virgins Bower, Dutchmans Pipe, Common Moonseed.

HEDGES

Tall, Untrimmed—Siberian Peashrub (*C. arborescens*), Zabel's Honeysuckle, Sweet Mockorange, Chinese Lilac, Common Lilac, Amur Maple. *Medium Untrimmed*—Peegee Hydrangea, Virginalis Mockorange, Vanhoutte Spirea. *Small, Untrimmed*—Rugosa Rose, Garland Spirea, Bush cinquefoil, Pygmy Caragana, Anthony waterer spirea. *Medium, Trimmed*—Amur Maple, Arborvitae, Zabel's Honeysuckle, Peking Cotoneaster. *Low, Trimmed*—Japanese Barberry, Dwarf Ninebark, Alpine Currant, Pygmy Caragana.

WINDBREAKS

Shrubs for Snow Traps—Caragana, Lilac, Crabapple, Plum, Honeysuckle. *Fast-growing, Short-lived Trees*—Cottonwood, Willow, Box Elder, Soft Maple, Chinese Elm. *Hardy, Long-lived Trees*—Green Ash, American Elm, Hackberry. *Evergreen Trees*—Norway Pine, White Spruce, Black Hills Spruce, Colorado Spruce.

Before Placing an Order . . .

for trees, shrubs, plants or bulbs with an out-of-state or unknown firm **CHECK FIRST** on the suitability of the varieties offered, reliability of the firm, and comparative prices.

The Minnesota State Horticultural Society is co-operating with other state and national organizations in doing what it can to protect gardeners from the few unethical advertisers in the trade. Do your part by checking **FIRST**.

GARDEN FLOWERS—Perennials and Hardy Bulbs

Name	Height	Color*	Use†	May	June	July	Aug.	Sept.	Oct.
Alyssum, Goldentuft	12 in.	Y	M	—					
Aster, Perennial	3-5 ft.	vary	M C						
Babysbreath	2-3 ft.	W	M C						
Balloon Flower	1-2 ft.	W, B	M C						
Bellflower, Carpathian	8-10 in.	B	M E						
Bleeding Heart	2-3 ft.	P	M	—					
Chrysanthemums	1-3 ft.	vary	M C						
Columbine	2 ft.	vary	M C						
Coral Bell	1½-2 ft.	CR	A C						
Coreopsis	2 ft.	Y	M C						
Dames Rocket	2-3 ft.	Pu	M						
Daylily	2-3 ft.	Y-R	A C						
Delphinium	3-5 ft.	W, B	A C						
Flax, Perennial	1½-2 ft.	B, W	M						
Gaillardia	1½-2 ft.	Y-R	M C						
Gas' Plant	2-3 ft.	W-P	A						
Gay Feather	2-4 ft.	Pu	A C						
Globe Flower	2-3 ft.	Y	M C						
Grass Pinks	6-12 in.	P	M C						
Hollyhocks	5-7 ft.	vary	A C						
Iris, Bearded	1½-3 ft.	vary	A C						
Iris, Dwarf	6-12 in.	vary	M E	—					
Iris, Siberian	1½-2 ft.	vary	A C						
Lily, Coral	1½-2 ft.	R	A C						
Lily, Elegans	1½-2 ft.	O-R	M C						
Lily, Tiger	3-4 ft.	O-R	A C						
Lupine	2-4 ft.	vary	M C						
Lythrum, Morden's Pink	2-4 ft.	P	A C						
Meadow Rue	2-4 ft.	vary	A C						
Monkshood	2-4 ft.	B	A C						
Oswego Beebalm	2-3 ft.	vary	M						
Painted Daisy	1½-2 ft.	W-R	M C						
Pentstemon	1½-2 ft.	vary	A C						
Peony	2-3 ft.	vary	M C						
Phlox, Garden	2-3 ft.	vary	A C						
Phlox, Moss	6 in.	R-P	M						
Physostegia	2-4 ft.	vary	A C						
Plantain Lily (Hosta)	1-2 ft.	W B	M C						
Polemonium	1-1½ ft.	B	M						
Poppy, Iceland	1-1½ ft.	vary	M						
Poppy, Oriental	2-2½ ft.	vary	A						
Shasta Daisy	1½-2 ft.	W	M C						
Sundrop	1-1½ ft.	Y	M						
Sweet William	1½-2 ft.	vary	M C						
Tulip	1-2 ft.	vary	M C						
Viola	4-10 in.	vary	M C						
Virginia Bluebell	½-1 ft.	B	M E						
Yarrow, Red	1½-2 ft.	P, R	M						

* Y—yellow, W—white, B—blue, P—pink, CR—coral-red, Pu—purple, R—rose, O—orange

† M—mass effect, A—accent, C—cut flowers, E—edging

FLOWER VARIETIES

Following are a few preferred flower varieties. This is not a complete list. There are many other varieties that are good or may have special merit.

ANNUALS

ALYSSUM—Royal Carpet, Carpet of Snow. CANDYTUFT—Purity. COSMOS—Fiesta, Radiance. CLEOME—Pink Queen. DAHLIA—Dwarf Unwin. HELIOPSIS—Summer Gold, MARI-

GARDEN FLOWERS—Annuals and Tender Bulbs

Name	Planting Dates*	Color†	Height (inches)	Uses‡	June	July	Aug.	Sept.	Oct.
Ageratum	Mar. 1 (I)	B	6-24	E					
Babysbreath	May 1-15	W	12-18	M C					
Bachelor Button	Apr. 15-30	B,P,W	36	M C					
Balsam	May 1-15	various	12-18	M P					
Browallia	Mar. 1 (I)	B, W	18-24	M					
Calendula	Apr. 15-30	O,Y	24	M C					
California Poppy	Apr. 15-30	Y	12	M					
Calliopsis	Apr. 15-30	Y	24	M C					
Candytuft	May 1-10	W	12-18	E					
Canna	June 1-10	various	24-48	A F					
Castor Bean	Mar. 1 (I)		36-144	A B					
Celosia, Plumy	May 1-10	Y-C	36-48	M C					
China Aster	Mar. 1 (I)	various	18	M C					
Chinese Forget-me-not	May 1-10	B	12-18	M C					
Clarkia	Mar. 15 (I)	P,W	12-18	M C					
Cockscomb	May 1-10	Y-C	24	M C					
Cosmos	Apr. 15-30	Y,W,C	36-72	M C					
Dahlia	May 20-30	various	18-72	M C					
Flax	Apr. 15-30	C	8-12	M E					
Four O'clock	Apr. 15-30	various	36	M					
Gaillardia	Apr. 15-30	Y-R	18-24	M C					
Gladiolus	Apr. 15- June 1	various	24-36	C					
Hunnemania	May 1-15	Y	18-24	M C					
Larkspur	Apr. 15-30	various	36-48	A C					
Linaria (Toadflax)	Apr. 15-30	various	18-24	M C					
Lobelia	Feb. 15 (I)	V,B,W	8-12	E					
Marigold, African	Apr. 1 (I)	Y,O	36-48	M C					
Marigold, French	Apr. 1 (I)	Y-R	12-18	E C					
Moss Rose	Apr. 15-30	various	6-8	E					
Nasturtium	May 1-15	Y,O	12-48	E C					
Nicotiana	Mar. 1 (I)	W,C	48-60	A C					
Nierembergia	Feb. 15 (I)	B	6	E					
Pansy	Feb. 15 (I)	various	8-12	E C					
Petunia	Mar. 1 (I)	various	12-15	M C					
Phlox	Mar. 1 (I)	various	12-18	E C					
Pinks	Apr. 15-30	various	12-18	E C					
Salvia (blue)	Mar. 1 (I)	B	12-18	M C					
Scabiosa	Apr. 1 (I)	various	24-36	M C					
Scarlet Sage	Mar. 1 (I)	R	12-36	A					
Shirley Poppy	Apr. 15-30	various	18	M C					
Snapdragon	Mar. 1 (I)	various	12-36	M C					
Stocks	Mar. 1 (I)	various	18	M C					
Sunflower (hybrids)	May 15-20	Y	24-48	A C					
Sweet Alyssum	Mar. 1 (I)	W,V	6	E					
Sweet Pea	Apr. 15-30	various	48-60	B C					
Sweet Sultan	Apr. 15-30	B,P,W	36	M C					
Tigridia	May 15-30	Y-R	12-18	M					
Verbena	Mar. 1 (I)	various	8-12	E					
Zinnia, Large	Mar. 15 (I)	various	36-48	M C					
Zinnia, Lilliput	Mar. 15 (I)	various	18	M C					

* I—inside

† B—blue, P—pink, W—white, O—orange, Y—yellow, C—crimson, R—red, V—violet

‡ E—edging, M—mass effect, C—cut flowers, P—pot plants, A—accent, F—formal beds,

B—background

GOLD—Glitters, Butterball. MORNING GLORY—Heavenly Blue, Scarlett O'Hara. NICOTIANA—Crimson Bedder. PANSY—Felix, Tigress. PETUNIA—Comanche, Silver Medal, Snow-storm, Igloo. SALVIA—St. John's Fire. SNAPDRAGON—Hybrids. ZINNIA—Persian Carpet, Candystick.

PERENNIALS

BABYS BREATH—Bristol Fairy. DELPHINIUM—Pacific Hybrids. HEMEROCALLIS—Hyperion. HOLLYHOCK—Indian Summer. LYTHRUM—Morden Pink. MONARDA—Croftway Pink. PENSTEMON—Firebird. PHLOX—Border Queen, Daily Sketch, Adonis. PINKS—Hedwigii. SHASTA DAISY—Mount Shasta, Supreme.

DAHLIAS

Recommended by the Minnesota Dahlia Society

Symbols used: (FD) formal decorative, (ID) informal decorative, (C) cactus, (SC) semi-cactus, (IC) incurved petals.
WHITE—Great Lakes (ID), Ballego Surprise (SC), Brides' Bouquet (FD). YELLOW—Bonny (IC), Vans Yellow (SC), Prairie Sun (FD). AUTUMN—Marjory Nolan (FD), Sunrays (ID), Evelyn Chandler (SC). RED—Mrs. Hester A. Pape (ID), Edna D (C), The Cardinal (SC). PINK—Pride of Holland (C), Gerrie Hoek (FD), Wosal (ID). PURPLE—Kemp's Purple Triumph (ID), Cheadle Park (SC), Orfeo (IC). LAVENDER—Marilyn Dale (SC), Michigan Orchid (FD), Commando (Pecks) (FD). BI-COLOR—Jane Lausche (SC), Red & White (ID), Lois Walcher (FD). BLENDS—Color Sketch (FD). Broeder Justinus (C), Judy G (C). VARIEGATED—Dixie's Wine Dot (ID), Haslerova (FD), Nancy Catherine Scharhag (ID), ORANGE—Patricia Spollen (IC), Orange Nassau (IC), Orange Imperator (C). POMPON—Brass Buttons (yellow), Mrs. J. Telfer (white), Sherry (purple), Betty Ann (pink), Morning Mist (blend), Mary Munns (lavender), Pareltje (orange), Betty Malone (bi-color). MINIATURES—White Fawn (white), Arabeske (yellow), Dubonnet (red), Firefly (orange), Little Diamond (pink). Andries Orange (orange), Ming (lavender), Fuschia Gem (purple). BALL—Rosy Dawn (blend), Supt. Amrhyn (lavender), Kentucky Snowball (white).

GARDEN CHRYSANTHEMUMS

AVALANCHE—White with creamy center, large double, midseason.
CANDLELIGHT—Ivory-white, medium size double, early.
CECIL REED—Lavender-pink, medium height, double, early.
GOLDEN HOURS—Lemon-chrome, double, midseason.
LITTLE ESKIMO—White, small pompon, long stems, midseason.
CHIPPEWA—Aster-purple, tall, semi-double, midseason.
REDGOLD—Brazil-red, medium tall, double, midseason.
BUTTERBALL—Lemon-chrome, low compact, early to midseason.
GLACIER—Pure white, large upright, large double, midseason.
VIOLET—Violet-purple, tall spreading, large double, midseason to late.
DR. LONGLEY—Pink, medium height, large double, early to mid-season.
PRAIRIE SUNSET—Rose-pink, medium height, large double, midseason.

PEONIES

Recommended by the Minnesota Peony and Iris Society

WHITE—Mrs. J. V. Edlund, Le Cygne, Kelway's Glorious, Elsa Sass. FLESH—La Lorraine, Dorothy J., A. B. Franklin, Blush. LIGHT PINK—Hansina Brand, Myrtle Gentry, Mrs. F. D. Roosevelt, Nick Shaylor, Minuet. DARK PINK—Blanche King, Marie Crousse, Tondeleyo, Martha Bullock, Ella Christiansen. RED—Mary Brand, Philip Rivoire, Bonanza, Matilda Lewis. HYBRID PEONIES—Coralie, Julia Grant, Red Charm.

IRISES

Recommended by the Twin City Iris Society

WHITE—Sharkskin. LIGHT BLUE—Sylvia Murray. MEDIUM BLUE—Blue Rythm. PLICATA—(white with blue) Blue Shimmer, (white with purple) Minnie Colquitt, (yellow with red) Royal Scot. ORCHID PINK—Harriet Thoreau. SEA SHELL PINK—Pink Cameo. RED—Ranger. ROSE—Mulberry Rose. BLEND—Three Oaks. LIGHT YELLOW—Moonlight Madonna. CREAM—Amandine. DEEP YELLOW—Ola Kala. BROWN—Bryce Canyon. BICOLOR—Gypsy. AMOENA—Wabash. MOHR HYBRID—Lady Mohr.

GLADIOLUS

Minnesota Gladiolus Society favorite varieties

WHITE—Florence Nightingale, Snow Princess, Mother Fischer. CREAM—Leading Lady, Salman's Glory. YELLOW—Spotlight, Gold. BUFF—Sunspot, Arethusa, Patrol. ORANGE—Daisy Mae, Orange Gold. SALMON—Genghis Khan, Picardy. SCARLET—Dieppe, Algonquin. PINK—Spic and Span, Phantom Beauty, Beauty's Blush. RED—Red Charm, Mid-America, Stoplight. BLACK-RED—Black Opal, Black Panther. ROSE—Burma, Miss Wisconsin. LAVENDER—Elizabeth the Queen, Wedgewood, Huntress. PURPLE—Purple Supreme, Lancaster. VIOLET—Abu Hasson, Blue Beauty. SMOKY—Oklahoma, Tunia's Mahomet, High Finance. ANY OTHER COLOR—Vagabond Prince, Buckeye Bronze. SMALL—Atom, Orange Butterfly, St. Paul, Starlet. MINIATURE—Kewpie, White Satin.

ROSES

Recommended by the Minnesota Rose Society

EVERBLOOMING CLIMBERS—New Dawn, White Dawn. EVERBLOOMING SHRUB TYPE—Grootendorst, Nearly Wild. RUGOSAS—all. HYBRID TEAS—Peace, Crimson Glory, Charlotte Armstrong, Etoile de Hollande, Radiance, Santa Anita, Christopher Stone, Tally Ho, Sutter's Gold, Nocturne, all the McGredy's, Soeur Therese, Eclipse, The Doctor. SUB-ZERO HYBRID TEAS—Pink Princess, Curly Pink, Lily Pons, Break O'Day, Shades of Autumn, King Boreas, V for Victory. FLORIBUNDAS—Hythe Cluster, all the Poulsens, Betty Prior, World's Fair, Donald Prior, Ming Toy, Fashion, Summer Snow, Improved Lafayette, Vogue, Pinnochio.

VEGETABLES

Prepared by the vegetable list committee of the Minnesota State Horticultural Society.

For additional information on new-variety tests write for University of Minnesota Extension folder 154.

Varieties Suggested for the Home Garden

- Asparagus—Washington*.
Bush Beans, Yellow—Cherokee*, Pencil-Pod Black Wax*, Brittle Wax*.
Bush Beans, Green—Topcrop*, Tendergreen*, Wades Bush*, Con-tender.
Pole Beans—Kentucky Wonder*.
Lima Beans, Bush—Triumph¹*, Henderson¹, Burpee Improved^{1*}.
Beans, Dry or Field—Great Northern, Michelite, Red Kidney.
Beets—Detroit Dark Red*, Early Wonder*.
Broccoli—Italian Green Sprouting (Calabrese)*, De Cicco.
Brussels Sprouts—Long Island.
Cabbage, Early—Golden Acre.
Cabbage, Late—Danish Ballhead, Penn State Ballhead, Hollander Short Stem.
Cabbage, Yellows Resistant—Early—Resistant Detroit, Racine Market—Late—Wisconsin Hollander.
Cabbage, Chinese—Chihili, Michihili.
Carrots—Nantes*, Danvers Half Long, Red Cored Chantenay*, Imperator*.
Cauliflower—Snowball*, Super Snowball*, Snowdrift*.
Celery—Golden Self Blanching, Utah.
Corn, Sweet—Early—Golden Rocket, Golden Midget*. Midseason—Golden Cross Bantam¹*, Golden Freezer^{1*}.
Corn, Pop—Minnhybrid No. 250¹, Silver Gold¹.
Cucumber, Slicing—Burpee Hybrid, Faribo Hybrid "C," Early Surecrop, Marketer.
Cucumbers, Pickling—National Pickling, Chicago Pickling, Mincu, York State Pickling.
Eggplant—Badger State, Black Beauty¹, New Hampshire.
Endive—Green Curled.
Kale—Dwarf Curled.
Kohlrabi—Early White, Purple Vienna.
Lettuce, Leaf—Grand Rapids, Black Seeded Simpson, Slobolt.
Lettuce, Head—Pennlake, Premier, Great Lakes.
Muskmelon—Early—Far North, Minnesota Midget. Midseason—Iroquois^{1*}, Golden Gopher^{1*}, Sugar Rock^{1*}.
Onion—Yellow, Red, and White Globes; Utah Sweet Spanish.
Onion, Perennial—White Welsh, Egyptian.
Parsley—Dark Moss Curled.
Parsnip—Improved Hollow Crown, All American.
Peas—Early—Little Marvel*, Laxtons Progress*, Freezonian*. Midseason—Wando, Lincoln*, Dark Seeded Perfection*.
Peppers—Ruby King, Sunnybrook, Calwonder¹, Oakview Wonder¹, Long Red Cayenne.
Potatoes—Early—Red Warba, Waseca, Cobbler. Midseason—Cherokee, Kennebec, Pontiac. Late—Green Mountain.
Pumpkin—Small Sugar (pie); Connecticut Field (Jack-o-lanterns).
Radish—Cherry Belle, Early Scarlet Globe, Cavalier, White Icicle.
Rhubarb—Valentine*, Ruby*, MacDonald Crimson*.
Rutabaga—Laurentian, American Purpletop.
Spinach—Bloomsdale Long Standing*, King of Denmark*, New Zealand.
Squash, Summer—Golden Straightneck, Black Zucchini, White Bush.

Squash, Winter—Buttercup*, Greengold*, Table Queen, Faribo Hybrid "R"*, Rainbow*, Sweetmeat*.

Swiss Chard—Lucullus*, Rhubarb.

Tomato—*Early*—Chatham², Firesteel, Faribo Hybrid "E". *Mid-season*—Valiant, Stokesdale, Pritchard¹. *Late*—Marglobe¹, Rutgers¹. *Yellow*—Jubilee.

Turnip—Purple Top White Globe*.

Watermelon—New Hampshire Midget, Early Kansas¹, Northern Sweet, Kleckley Sweet¹.

* Tested and found suitable for freezing.

¹ For Southern Minnesota only. (Fruit districts 1 and 2.)

² For Northern Minnesota only. (Fruit districts 3 and 4.)

Where no reference is made the variety is generally adapted all over Minnesota.

LAWN SEEDING

Recommended seeding times are: from April 15 to May 15 (to June 1 in northern Minn.); and August 15 to September 10.

Seed mixtures are recommended. These should contain from 40 to 60 percent Kentucky bluegrass or bluegrass plus other permanent lawn grasses. For shady or sandy lawns be sure the mixture contains one of the fescues.

If you make your own mixture use: 6 parts Kentucky bluegrass, 2 parts redtop, 1 part perennial ryegrass, 1 part white clover. For shade or sandy soil, substitute three parts of red fescue for half of the bluegrass in the above mixture. Sow seed at the rate of 3 to 4 pounds per 1,000 square feet.

SOIL IMPROVEMENT

Applications of compost, manure, agricultural peat, or similar organic materials will improve tilth and productivity of most garden soils. The new chemical soil conditioners (they are not fertilizers) also may improve the structural condition of heavy soils.

Organic materials added to the soil eventually increase the amount of plant food available. Commercial fertilizers supply plant food only. They may be used alone, or, to supplement slow-acting organic fertilizers.

Garden fertilizers may be obtained in many strengths. Most common are those with formulae of approximately 5-10-5. They may be used as follows:

For lawns and borders.....15 to 20 lbs. per 1,000 sq. ft.

For side-dressing along

rows of vegetables, flowers,

and small fruit plants.....1 lb. per 25 ft. of row.

Fruit and shade trees (cultivated
in, or placed in augur holes underneath
outer branches)

Under 5 years2 to 8 lbs. per tree.

Over 5 years8 to 25 lbs. per tree.

Individual shrubs or

bush fruit plants.....1 cup per plant (well distributed

and worked into soil.)

STARTER SOLUTION—Soak $\frac{1}{2}$ cup of 5-10-5 fertilizer in 1 gallon of water for 24 hours. Pour $\frac{1}{2}$ cup around roots of each newly transplanted flower or vegetable plant.

CONTROL MEASURES FOR SOME COMMON PESTS

5% DDT FOR THESE GARDEN INSECTS:

Cutworms—Dust soil areas around plants with either 5% DDT or 5% Toxaphene dust.

Cucumber Beetle—Dust as soon as plants are up. Repeat often.

Cabbage Worm—Apply as soon as worms hatch. Repeat as needed.

Cabbage and Radish Maggot—Dust plants and surrounding soil at frequent intervals when the plants are small.

Flea Beetle—Dust plants as soon as insects are noted.

Gladiolus Thrips—Dust corms when placed in storage. Dust plants at ten-day intervals beginning soon after plants are up.

DORMANT SPRAY—SCALE INSECTS AND PLANT LICE

Spray woody plants just before the buds open. Use 1 pint of liquid lime sulfur in 1 gallon of water.

SLUGS

Trap under boards, or, poison with prepared bait containing metaldehyde such as "Snarol."

GRASSHOPPERS

Dust all foliage in infested area lightly with 5% Chlordane or Toxaphene dust. Will be most effective if applied when the grasshoppers are small.

RED SPIDER

Spray with wettable sulfur (2 tablespoons in 1 gallon of water), or apply dusting sulfur with a duster. Use commercial preparations such as Dimite, Aramite, Ovatran.

POTATO PESTS

To control beetles and leafhoppers apply frequent applications of 5% DDT dust or a spray using 50% wettable DDT powder as directed by manufacturer. For blight control add fixed-copper dust or spray material to the above as directed by manufacturer. Several preparations can be obtained in which DDT and copper are already combined.

LAWN INSECTS

Ants are readily controlled by dusting 3 to 10 per cent chlordane around the ant hills. For white grubs, dust 1 pound of 40 per cent wettable chlordane over each 1,000 square feet of lawn surface and water in well. For earthworms use 1½ pounds per 1,000 square feet.

TOMATO LEAF SPOT AND BLIGHT

Use fixed-copper dust or spray as recommended by manufacturer. Begin applications early.

GLADIOLUS SCAB

Soak corms 3 to 6 hours in solution of 1 tsp. Lysol in 1 quart of water. Plant while wet. Or, soak 5 minutes in calomel, 1 ounce in 1 gallon of water.

RUST AND MILDEW

Apply sulfur dust to young plants of snapdragon, hollyhock, rose, delphinium, phlox and zinnia. If the diseases appear on older plants dust every two weeks during the season.

ROSE BLACKSPOT

A three-in-one spray such as "Triogen" will control both insects and diseases. Or, dusting sulfur plus 10% lead arsenate may be used; one form is known as Massey's dust. This dust is improved by adding 10% Fermate. Spray or dust once a week or oftener.

Sunscald

Sunscald is a type of winter injury that appears as cankers on the south or southwest side of trunk or limbs. Anything that will keep the sun from shining directly on the trees during the winter will help to prevent sunscald. Wrap the trunk and lower main limbs with aluminum foil. (Such as is used in frozen food storage.)

Dandelions

Apply 2, 4-D spray (as directed by manufacturer) in the morning of a clear day when the temperature is above 70 degrees F. One application early in the season should keep the lawn relatively free for the remainder of the season. Later sprays may be applied if necessary. (Warning—keep away from garden plants and shrubbery.)

CRABGRASS (in lawns)

Use crabgrass killers containing phenyl mercuric acetate (PMA) sold under various brand names. Apply as directed by manufacturer (usually 2 fluid ounces in $2\frac{1}{2}$ gallons of water per 1,000 square feet of lawn—for the 10% liquid forms). Use at least two applications; the first when the crabgrass seedlings first appear (late June or early July); the second seven to ten days later.

Moles, Rats

Write for leaflets on control—Bulletin Room, University Farm, St. Paul 1, Minn.

Pocket Gophers

Cut potatoes or carrots into $\frac{1}{2}$ -inch pieces. Dust lightly with mixture of $\frac{1}{8}$ ounce sodium bicarbonate, $\frac{1}{8}$ ounce powdered strychnia alkaloid, $1/80$ ounce saccharine. Place poisoned pieces in runways being careful to exclude all light.—Write for Folder 75, Pocket Gopher Control—Bulletin Room, University Farm, St. Paul 1, Minn.

Rabbits

Wrap the trunk and lower main limbs of young trees with aluminum foil. (Such as is used in frozen food storage.) Commercially prepared repellent paints and sprays are fairly effective when applied to the trunks and main branches of trees.

Mice

Protectors made of $\frac{1}{4}$ or $1/3$ inch mesh galvanized wire placed around trunk of orchard trees at base will help prevent girdling by mice and rabbits. Remove weeds and grass from base of trees and mound earth around trunk. Write to Horticultural Society, University Farm, St. Paul 1, Minn., for information on control of mice in orchards with poison grain and cost of poison grain available through the society.

SOME PLANTING SUGGESTIONS

Plant at the Right Time—Confer with your supplier about the right time for each type of plant. Order early.

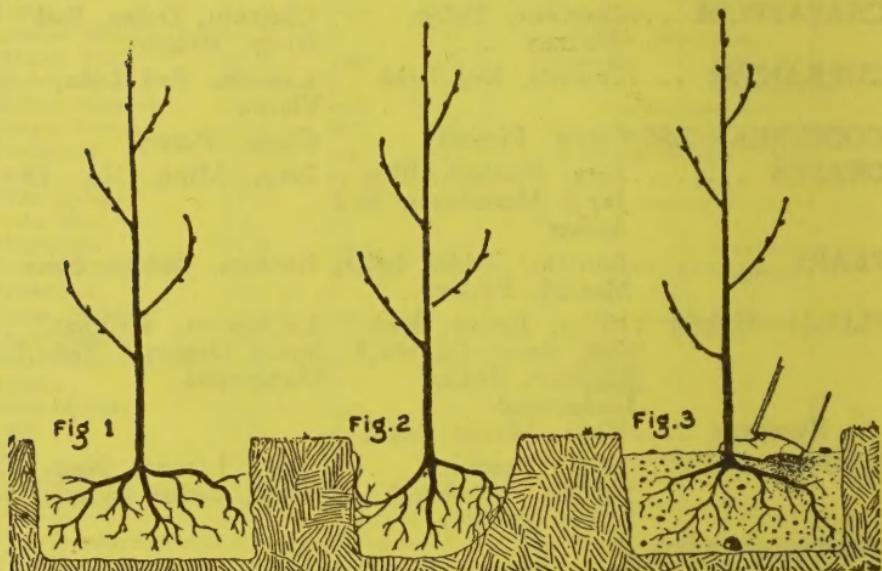
Prepare the Soil—Before the plants arrive have the soil ready. If the soil is too sandy, too hard, or lacking in fertility improve it by adding compost, rotted manure, granulated peat, or other organic material. Do not place commercial fertilizer in direct contact with plants.

Prune if Needed—Most deciduous woody plants (not evergreens) should be cut back severely at the time of planting.

Water Thoroughly—Firm the soil around the plants, leaving a depression for water. Use plenty of water at planting time. Later, water thoroughly but only when needed. Do not keep the soil soggy by too frequent watering.

Be Careful with Evergreens—Do not allow the roots to be exposed at all. Leave the burlap on, loosening at top where the stem protrudes. Do not break the ball.

Protect Your Plants—They cannot compete with dogs, weeds, wind, insects and other garden pests. Protect them at least until well established.



SETTING PLANTS AND TREES

When nursery plants are received, open the package at once and plunge the roots into water. Then set them out in permanent place as soon as possible. The proper method of planting is shown in Fig. 1. The hole is large enough to hold the roots without bending as in Fig. 2. In Fig. 3, the heel is used in firming the soil over the roots.